

CLAIM AMENDMENTS

1           1. (original) A method of liberating oxygen isotopes  
2     from oxygen-containing solids in which the solids are heated,  
3     characterized in that the oxygen-containing solids are brought into  
4     contact with graphite and heated up by means of induction whereby  
5     CO and/or CO<sub>2</sub> result.

1           2. (original) The method according to claim 1,  
2     characterized in that the heating up of the solids is effected in  
3     vacuum.

1           3. (original) The method according to claim 1,  
2     characterized in that the CO or CO<sub>2</sub> resulting from the heating of  
3     the solids are isolated.

1           4. (original) The method according to claim 1,  
2     characterized in that the CO or CO<sub>2</sub> are fed to an analysis process.

1           5. (original) The method according to claim 4,  
2     characterized in that the analysis process is a mass spectroscopic  
3     process.

1                   6. (original) The method according to claim 1,  
2     characterized in that the solid is a silicate.

1                   7. (original) The method according to claim 6,  
2     characterized in that the heating is carried out from 1600 to  
3     2200°C.

1                   8. (original) The method according to claim 1  
2     characterized in that the heating is carried out sequentially to  
3     drive off impurities like water.

1                   9. (original) An apparatus for liberating oxygen  
2     isotopes from oxygen-containing solids characterized in that it  
3     includes a graphite cuvette (1) and an induction source.

1                   10. (original) The apparatus according to claim 9,  
2     characterized in that the graphite cuvette (1) is provided in a  
3     vacuum-tight housing (5) of quartz glass to which a pump is  
4     connected.

1           11. (original) The apparatus according to claim 9,  
2     characterized in that it comprises means (7) for capturing gaseous  
3     CO or CO2 arising from induction.

1           12. (original) The apparatus according to claim 10,  
2     characterized in that the housing (5) of quartz glass is provided  
3     with means (8) for cooling it.

1           13. (original) The apparatus according to claim 10,  
2     characterized in that the housing (5) of quartz glass can be opened  
3     on opposite sides to replace the solid with the graphite cuvette.

1           14. (currently amended) The apparatus according to  
2     claims 13, characterized in that the graphite cuvette (1) is  
3     elongated whereby at an upper end a cavity (2) is provided for  
4     ~~receiving the solids and at the opposite end an axial bore (3) is~~  
5     provided which can receive a rod with which the graphite cuvette  
6     can be mounted in, the housing (5).

Claim 15, (cancel)

Claim 16, (cancel)

Claim 17, (cancel)

1                   18.    (new)  An apparatus for liberating oxygen isotopes  
2    from a solid, comprising:

3                    an elongated quartz-glass evacuatable vacuum-tight  
4    housing connectable to a vacuum pump;

5                    an elongated graphite cuvette having a cavity at one end  
6    and a bore at an opposite end, said cavity receiving a sample of  
7    said solid;

8                    a rod received in said bore for inserting said cuvette  
9    into said housing and positioning said cuvette in said housing;

10                   a cooling jacket surrounding said housing and provided  
11   with an inlet and an outlet for passing a cooling liquid through  
12   said jacket;

13                   an induction coil surrounding said housing for induction  
14   heating of said cuvette and said solid to gradually raise a  
15   temperature of said solid to initially drive impurities therefrom  
16   and then decompose said solid to liberate oxygen therefrom whereby  
17   said oxygen combines with graphite carbon to form a carbon-oxygen  
18   gas;

19                   a duct for admitting a carrier gas to said housing  
20   whereby said gas containing oxygen liberated from said solid is  
21   entrained in said carrier gas to a spectrometer for isotope  
22   analysis.